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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,102	12/18/2001	Alan W. Peters	W9003-04	4840

7590

03/04/2004

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EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT PAPER NUMBER

1764

DATE MAILED: 03/04/2004

[Handwritten signature]

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,102

Applicant(s)

PETERS ET AL.

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 23, 2004 has been entered.

Response to Amendment

The claim objections and rejections under 35 USC 112 as described in the paper mailed on July 22, 2003 have been withdrawn in view of the amendment filed on January 23, 2004.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-6, and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasalos et al. (US 4,153,535).

The Vasalos reference discloses an FCC catalyst comprising a cracking component and a component, which is deemed based on the totality of the disclosure to function as the combustion promotion component, which comprises the applicant's components including palladium, rare earth metal oxides (e.g., cerium), alkaline earth metals (e.g., calcium, strontium, barium) in overlapping proportions with those of the claims. The combustion component may be in the same particle as the cracking component or in separate particles. (See col. 4, lines 18-40 and 65-68; col. 5, lines 1-17 and 30-43; col. 8, lines 13-28; col. 10, lines 13 and 14; and col. 14, lines 28-61.)

It is acknowledged that the reference does not disclose the exact amount ranges in the applicant's claims and that the reference does not disclose the specific combinations disclosed in the claims. The invention as a whole however would have been obvious to one having ordinary skill in the art because the selection of a combination from the limited number of combinations disclosed in the reference, or the determination of the workable range of the metal components would have been within the ordinary skill. See *In re Aller, Lacey, and Hall*, 105 USPQ 233

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(CCPA 1955); *In re Swain et al.*, 33 CCPA (Patents 1250, 156 F.2d 239, 70 USPQ 412; *Minnesota Mining and Mfg. Co. v. Coe*, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; and *Allen et al. v. Coe*, 77 App. D.C. 324, 135 F.2d 11, 57 USPQ 136.

Claims 1, 3-5, and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCauley et al. (US 6,117,813).

The McCauley reference discloses a composition for use in FCC units that comprises a carrier such as alumina or silica-alumina, a Group VIII metal such as palladium, an alkaline earth metal, and a Group IIIB transition metal oxide. The Group IIIB transition metal oxide would have oxygen storage capability. The composition can be added to the catalyst inventory in an FCC process. See column 2, line 23 through column 3, line 58 and column 4, lines 44-46.

The McCauley reference does not disclose the amount ranges for each component including alumina in the support in an amount of at least 50 weight percent and does not disclose that the composition and the FCC catalyst are in an integral particle.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the composition of McCauley by determining effective amounts of each component of the composition because McCauley discloses that metal concentration can be adjusted in order to reduce concentration of the other metals. Therefore, one having ordinary skill in the art would adjust amounts to obtain a composition that maximizes its effectiveness in the FCC process.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the composition of McCauley by incorporating it into a particle with an FCC catalyst because any type of mixture of an FCC catalyst and disclosed

composition would be expected to be effective as long as the composition is present in the regenerator.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCauley et al. (US 6,117,813) as applied to claim 1 above, and further in view of Summers (US 4,923,842).

As discussed above, the McCauley reference does not disclose the use of ceria in the catalyst.

The Summers reference discloses that both lanthanum and cerium oxides have oxygen storage capabilities. See column 4, lines 56-65.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the composition of McCauley by using cerium oxide as suggested by Summers because cerium oxide has a equivalent function to the Group IIIB oxides of McCauley and therefore its use in the composition would be expected to result in a composition having an equivalent function to the disclosed composition of McCauley.

Response to Arguments

The argument and affidavit that the claimed compositions unexpectedly reduce NOX emitted during regeneration while simultaneously promoting the oxidation of CO are not persuasive since the evidence provided is not commensurate in scope with the claimed invention. For example, the evidence provided in the affidavit is based on a magnesium-containing composition but the claims are not limited to magnesium-containing compositions.

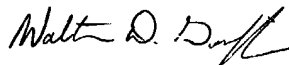
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Vasalos reference (US 4,221,677) discloses an FCC additive composition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
February 27, 2004